

- \_\_\_\_\_ 1963. A classification of the scaphopod mollusks in Japan and its adjacent areas. *Bull. Nat. Sci. Mus. Tokyo* 6(3): 252-281, pls. 37, 38.
- \_\_\_\_\_ 1964. *Fauna Japonica*. Scaphopoda. Nat. Sci. Mus. Tokyo, 59 p., 5 pls.
- \_\_\_\_\_ 1977. *Systematics of Mollusca in Japan*. Bivalvia and Scaphopoda. xiii + 372 p.
- Henderson, J. B. 1920. A monograph of the east American scaphopod mollusks. *U. S. Nat. Mus. Bull.* III: 177 p., 20 pls.
- Kuroda, T., and T. Habe, in Habe, 1953. *Genera of Japanese shells*, Pelecypoda and Scaphopoda. No. 4, p. i-v + 281-326, text figs. 731-769.
- Lacaze-Duthiers, F. J. H. de. 1885. Note sur l'anatomie du Dentale. *Cmpt. Rend. hebdom. Séance Acad. Sci. Paris.* 101: 296-300.
- Ludbrook, N. H. 1960. Scaphopoda in, Knight, J. B., et al., *Treatise on Invertebrate Paleontology*, pt. I, Mollusca 1, p. 137-141, figs. 28-30.
- Palmer, C. P. 1974. A supraspecific classification of the scaphopod Mollusca. *Veliger* 17(2): 115-123, 4 figs.
- Pilsbry, H. A., and B. Sharp. 1897-1898. *Manual of Conchology*, ser. 1. vol. 17, p. xxxii + 144 [1897], p. 145-280 [1898], pls. 1-39.
- Sakurai, K. and T. Shimazu. 1963. A new tusk shell *Striocadulus* (*Sagamicadulus*) *elegantissimus* subgen. et sp. nov. from Sagami Bay, Japan. *Bull. Nat. Sci. Mus. (Tokyo)* 6(3): 250, 251, 1 fig.
- Shimansky, V. N. 1963. Systematic position and scope of *Xenococonchia*. *Paleont. Zhur.*, 1963, no. 4, p. 53-63 [not seen].
- \_\_\_\_\_ 1974. Novgy rod skafopod iz karbona Donbassa. *Paleont. Zhur.*, 1974, no. 1, p. 134-136. [English translation: A new scaphopod genus from the Carboniferous of the Donbass. *Paleont. Jour.*, Amer. Geol. Inst. 1974, 8(1): 125-127, 2 figs.]
- Starobogatov, Ya. I. 1974. Ksenokowkhii i ikh znacheniy dlya filogenii i sistemy nekotorykh klass mollyuskov. *Paleont. Zhur.*, 1974 no. 1, p. 3-18, 6 figs. [English translation: Xenochonchias and their bearing on the phylogeny of systematics of some molluscan classes. *Paleont. Jour.*, Amer. Geol. Inst., 1974, 8(1): 1-13, 6 figs.]
- Watson, R. B. 1879. Mollusca of the *Challenger* Expedition. Pts. 1 and 2, Preliminary report on Solenoconchia. *Jour. Linn. Soc. Zool.* London 14: 506-529.
- Yancy, T. E. 1973. A new genus of Permian siphonodontalid [*sic*] scaphopods, and its bearing on the origin of the Siphonodontaliidae. *Jour. Paleont.* 47(6): 1062-1064, 4 figs.

## A CASE OF DOUBLE PRIMARY HOMONYMY IN EASTERN PACIFIC LITTORINIDAE

Joseph Rosewater

Department of Invertebrate Zoology (Mollusks)  
National Museum of Natural History  
Washington, D. C. 20560

### ABSTRACT

*Littorina keenae*, new name for *Littorina planaxis Philippi, 1847*, non *Littorina planaxis Sowerby, 1844*; and for *Littorina patula Gould, 1849*, non *Littorina patula Thorpe, 1844*.

In the course of a systematic study of West African Littorinidae a case of double primary homonymy was discovered which unavoidably necessitates that a replacement name be provided for the well-known eastern Pacific species, *Littorina planaxis* Philippi, 1847.

The facts are these:

A. 1.) The combination *Littorina planaxis* 'Nuttall' Jay, 1839, p. 73, published in association with the locality, "Upper California", is a *nomen*

*nudum* and is not available as a contender for priority.

2.) *Littorina planaxis* Sowerby, 1844, p. 153, was validly introduced for a Tertiary fossil species from St. Jago, Cape Verde Islands (see Sherborn, 1929, p. 5007).

3.) *Littorina planaxis* Philippi, 1847, p. 201, from "California Superior," was validly introduced for the Recent eastern Pacific species which has been reported to occur from Oregon to Baja California (Yamada, 1977).

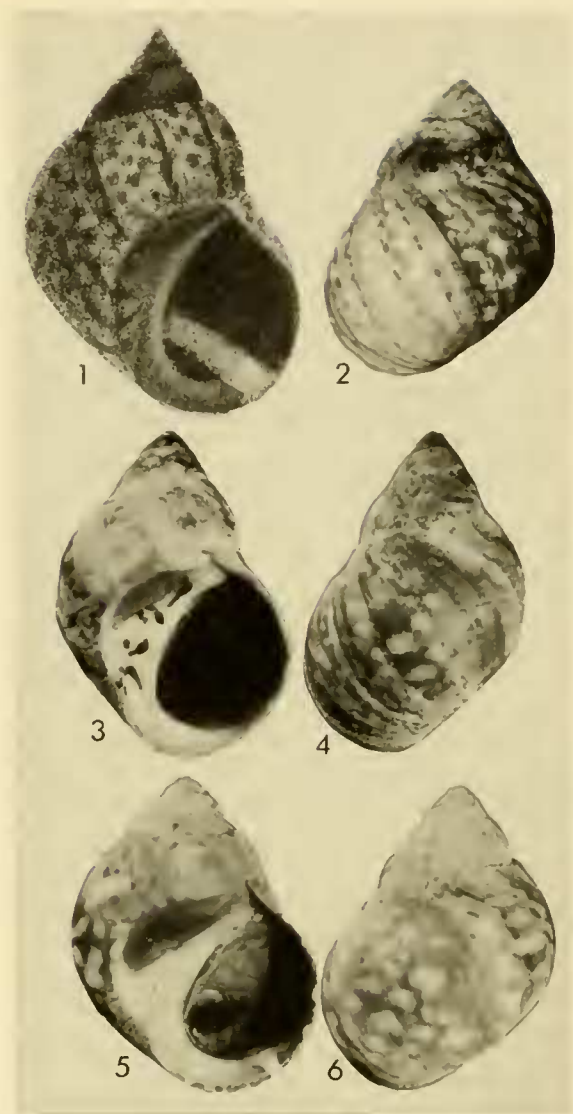


FIG. 1. *Littorina planaxis* Philippi, 1847 (original figure of Holotype). 2. *Littorina planaxis* Philippi (Holotype, BM(NH) 19124.12. 30-4; 17.4 mm length). 3-4. *Littorina patula* Gould (Holotype, USNM 5336; 17.8 mm length). 5-6. *Littorina keenae* Rosewater (USNM 47109; Monterey, California; 17.4 mm length).

B. 1.) *Littorina patula* 'Jeffreys' Thorpe, 1844, p. 259, was validly introduced for a species collected at "Eddystone Rock" [SW of Plymouth, England]. This name has been used most recently for an element of the *Littorina saxatilis* Olivi species complex in Wales (Heller, 1975).

2.) *Littorina patula* Gould, 1849, p. 83, was introduced for a species from "San Fran-

cisco". It is an obvious synonym of *L. planaxis* Philippi.

As can be seen from the foregoing, *Littorina planaxis* Philippi, 1847, is a junior primary homonym of *L. planaxis* Sowerby, 1844. As such it must be rejected permanently (I.C.Z.N. Article 57 and 59a). Ordinarily, it would be replaced by its next available synonym, *Littorina patula* Gould, 1849, except for the fact that the latter is itself a junior primary homonym of *L. patula* Thorpe, 1844! Since, to my knowledge, there are no further existing available names for the taxon, *L. planaxis* Philippi, 1847, a new name is needed. I propose *Littorina keenae* as a replacement name for the eastern Pacific species formerly known as *L. planaxis* Philippi. It is named for Dr. A. Myra Keen, Department of Geology, Stanford University, who has contributed so much to malacology.

It is strange that a case of homonymy involving a common intertidal species has not been corrected previously. This may be due to the fact that Sowerby (1844) appears to be an uncommon, if not rare publication. It is missing from the library of the British Museum (Natural History) (see notation under "Sowerby, G. B. I, 1844" below in Literature Cited"). The work was reissued later in combination with two other publications of Darwin (see Darwin, 1851) which seem to be more readily available. The name *L. planaxis* was, without doubt, published by Sowerby in 1844, making it the senior primary homonym. Unfortunately, according to R. J. Cleavelly, Department of Palaeontology, British Museum (N.H.), the type-specimen of Sowerby's species probably must be regarded as lost (personal communication), and the identity of the species is in doubt, but that in no way affects its status in homonymy.

#### ACKNOWLEDGMENTS

Thanks are due J. R. Taylor and R. J. Cleavelly, British Museum (Natural History) for providing information on type-specimens of Recent and fossil Littorinidae, and to H. A. Rehder for his comments.

## LITERATURE CITED

- Darwin, C. R. 1851. Geological Observations on Coral Reefs, Volcanic Islands, and on South America: being the Geology of the Voyage of the *Beagle*. . . during 1832 to 1836. 3 parts [in 1 volume] illustrated, 8" London [a reissue, with a covering title of the three separate parts published in 1842, 1844 and 1846].
- Gould, A. A. 1849. Expedition Shells Described for the Work of the United States Exploring Expedition. *Proc. Boston Soc. Nat. His.* 1851 **3**: 83-85.
- Heller, J. 1975. The Taxonomy of some British *Littorina* species, with notes on their reproduction (Mollusca: Prosobranchia). *Jour. Linnean Soc. London, Zoology* **56**: 131-151.
- Jay, J. C. 1839. *A Catalogue of the Shells arranged according to the Lamarckian System*. Wiley and Putnam, New York, pp. 1-125, 10 plates.
- Philippi, R. A. 1847. *Abbildungen und Beschreibungen Conchylien* **2**, Cassel, pp. 1-223.
- Sherborn, C. D. 1929. *Index Animalium*, section 2, part 20, *phyllochroma-Pratincola*, pp. 4931-5138.
- Sowerby, G. B., I. 1844. In Appendix, in Darwin, C. R. 1844: Geological Observations on the Volcanic Islands visited during the Voyage of H.M.S. *Beagle*. London [Full pagination not given in "Catalogue of the Library of the British Museum (N.H.)"; see entry under Darwin, C. R. in Bibliography in Sherborn, C. D., 1922, Index Animalium, section 2, part 1, p. xlii.]
- Thorpe, C. 1844. *British Marine Conchology* London, pp. lx. + 1-267.
- Yamada, S. Behrens. 1977. Geographic Range Limitation of the Intertidal Gastropods *Littorina sitkana* and *L. planaxis*. *Marine Biology* **39**: 61-65.

OBSERVATIONS ON *ANODONTA GRANDIS* (UNIONIDAE) IN GREEN RIVER LAKE, KENTUCKY

John Kessler<sup>1</sup> and Andrew Miller<sup>2</sup>  
both U. S. Army Corps of Engineers  
Louisville, Kentucky 40201

## ABSTRACT

*A non-reproducing colony of Anodonta grandis Say was discovered in Green River Lake, a man-made impoundment in Taylor, Adair and Casey Counties, Kentucky. The clams inhabited a 5-meter-wide zone, within the epilimnion, at a depth of 7 to 8 meters, along the entire front face of the dam. The authors have previously found no living unionids in this lake. All of the living specimens were in good condition and were aged at 6 to 7 years. A single introduction by host fish, at the time of inundation, is judged to be the explanation for the presence of this grouping of mussels. Although 77 species of unionid mollusks have been reported from Green River proper, this was the only species found in the lake and it is apparently restricted to a single site.*

Dramatic alteration of a segment of a riverine ecosystem by its conversion to a lacustrine habitat is detrimental to many species of unionid mollusks (Harman 1974, Isom 1971). Sedimentation, deep water, poor water circulation and lack of suitable substrate are some of the reasons why

these typically lotic organisms do not find conditions favorable in man-made impoundments. The Tennessee River and its tributaries at one time supported at least 64 species of freshwater mussels (Ortmann 1918). Recently Isom (1971), found only four species in Fort Loudon Reservoir on the Tennessee River. Siltation and anoxic conditions during most of the year were considered the major deterrents to further establishment of

<sup>1</sup> Mailing Address: RR 4, Taylorsville, Kentucky 40071

<sup>2</sup> Mailing Address: 225 Creek Road, Sellersburg, Indiana 47172